

What is claimed is:

1. An OFDM signal transmission system comprising:
  - a first reception block equipped with a first
  - 5 reception section that receives a first transmission signal sent from a transmission station that transmits a modulated signal modulated according to an OFDM modulation system using a first frequency band, a tuning section that tunes the first received signal, a first
  - 10 demodulation section that demodulates the first received signal and an output section; and
  - a second reception block equipped with a second reception section capable of receiving a second transmission signal sent from a transmission/reception station that carries
  - 15 out reception using a second frequency band which is different from the first frequency band and a second demodulation section that demodulates the second received signal, wherein the identification information of transmission/reception station included in the second
  - 20 received signal and/or information to perform at least one of tuning or demodulation of said first transmission signal is received, transmission information to perform at least one of tuning or demodulation of the first transmission signal is obtained, at least one of tuning
  - 25 or demodulation of the first received signal is performed at said first demodulation section.

2. An OFDM signal transmission system comprising:

- a first reception block equipped with a first reception section that receives a first transmission signal sent from a transmission station that transmits a modulated signal modulated according to an OFDM modulation system using a first frequency band, a tuning section that tunes the first received signal, a first demodulation section that demodulates the first received signal and an output section; and
- a second reception block equipped with a second reception section capable of receiving a second transmission signal sent from a transmission/reception station that carries out reception using a second frequency band which is different from the first frequency band and a second demodulation section that demodulates the second received signal, wherein the identification information of transmission/reception station included in the second received signal and/or information to perform tuning and/or demodulation of said first transmission signal is received, transmission information to perform tuning and/or demodulation of the first transmission signal is obtained, tuning and/or demodulation of the first received signal is performed at said tuning section and/or said first demodulation section.

3. An OFDM signal transmission system comprising:

a first reception block equipped with a first reception section that receives a first transmission signal sent from a transmission station that transmits a modulated signal modulated according to an OFDM

- 5 modulation system using a first frequency band, a tuning section that tunes the first received signal, a first demodulation section that demodulates the first received signal and an output section; and

- a second reception block equipped with a second  
10 reception section capable of receiving a second transmission signal sent from a transmission/reception station that carries out reception using a second frequency band which is different from the first frequency band and a second demodulation section that demodulates  
15 the second received signal, wherein the identification information of transmission/reception station included in the second received signal and/or information to perform tuning and/or demodulation of said first transmission signal is received, transmission  
20 information to perform tuning and/or demodulation of the first transmission signal is obtained, tuning and/or demodulation of the first received signal is performed at said tuning section and/or said first demodulation section, the demodulation data is displayed on the data  
25 display section.

4. A portable terminal comprising:

receiving means;  
barcode forming means for forming barcodes; and  
displaying means, wherein said barcode forming  
means forms a barcode from the data received by said  
5 receiving means and said displaying means displays said  
formed barcode.

5. The portable terminal according to claim 4, further  
comprising detecting means for detecting light or a signal  
10 from a barcode reader provided near said displaying means.

6. The portable terminal according to claim 5, wherein  
barcodes displayed on said displaying means are updated  
one by one according to the detection result of said  
15 detecting means.

7. A portable terminal comprising:  
receiving means;  
barcode forming means for forming barcodes based  
20 on a received signal; and  
displaying means including a main display section  
and a sub-display section, wherein said barcode is  
displayed on said sub-display section.

25 8. The portable terminal according to claim 7, wherein  
said sub-display section has higher resolution than said  
main display section.

9. The portable terminal according to claim 7, wherein said main display section has a color filter layer and said sub-display section has no color filter layer.

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10. The portable terminal according to claim 7, wherein data to be displayed on said sub-display section is divided into a plurality of pieces of data and said sub-display section displays a barcode a plurality of times with some  
10 pieces of data at a time.

11. The portable terminal according to claim 7, wherein said main display section displays two-dimensional barcodes.

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12. The portable terminal according to claim 11, wherein said one-dimensional barcodes and/or said two-dimensional barcodes are adaptively displayed according to the amount of data to be displayed with  
20 barcodes or instructions.

13. The portable terminal according to claim 12, wherein timing of updating display barcode patterns to be displayed on each display section is adaptively selected  
25 according to the amount of data to be displayed with barcodes or instructions.

14. The portable terminal according to claim 11, wherein timing of updating the display of barcode patterns is selected so that one-dimensional barcodes to be displayed on the sub-display section and two-dimensional barcodes to be displayed on the main display section have the same amount of information displayed per unit time.

15. A portable terminal comprising:  
receiving means;  
barcode forming means for forming barcodes based on a received signal; and  
displaying means for displaying said barcodes, wherein when barcodes are displayed a plurality of times on said display section, barcodes are displayed a plurality of times with predetermined non-display periods inserted between barcode display periods.

16. The portable terminal according to claim 15, wherein said barcode display period is selected to be longer than said non-display period.

17. The portable terminal according to claim 15, wherein a plurality of barcodes is formed for each of a plurality of pieces of information, each piece of information is displayed with a plurality of barcodes with a predetermined non-display period inserted between barcode display periods and the non-display period

between barcodes corresponding to a break point of information is made longer than the non-display period within each piece of information.

5 18. A portable terminal comprising:

receiving means;

barcode forming means for forming barcodes based on a received signal; and

displaying means for displaying said barcode,

10 wherein when displaying section in said displaying means displays barcodes a plurality of times, the start part of the barcode shows a display order number indicating the displaying order and a total number of barcodes displayed.

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19. A portable terminal comprising:

receiving means;

barcode forming means for forming barcodes based on a received signal;

20 displaying means for displaying said barcode; and

a barcode display switch to display a barcode on said displaying means, wherein when said barcode display switch is operated, an entry of a preset password is requested and no barcode is displayed when a correct  
25 password is not entered.

20. The portable terminal according to claim 4, further

comprising encryption processing means, wherein said encryption processing means encrypts the data received by said receiving means, said barcode forming means forms barcode data from the data encrypted by said encryption processing means and said displaying means displays said formed barcode data.

21. A portable terminal comprising:  
receiving means for receiving signals sent by radio;  
barcode forming means for forming barcodes; and  
displaying means; and  
local radio communicating means, wherein the local radio communicating means searches for the received identification information from the data received by said receiving means and said displaying means displays the searched data as a barcode.

22. An electronic commerce system comprising:  
a portable terminal;  
an information transmission apparatus that sends product information or service information to said portable terminal; and  
a distribution control apparatus that controls electronic commercial transaction information, wherein said portable terminal receives product information or service information through said information transmission apparatus and receives auxiliary



information on said product information or service  
information from said distribution control apparatus.

23. The electronic commerce system according to claim  
5 22, wherein said product information or service  
information sent by said information transmission  
apparatus is broadcast signals and said portable terminal  
performs bi-directional communication with said  
distribution control apparatus.

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24. The electronic commerce system according to claim  
22, wherein said auxiliary information is information  
suitable for the portable terminal or the portable  
terminal user.

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25. An electronic commerce system comprising:  
a portable terminal;  
a shop terminal equipped with a barcode reader  
provided at a shop where products are delivered; and  
20 a distribution control apparatus that controls  
electronic commercial transaction information, wherein  
said portable terminal displays the product information,  
service information or information on commercial  
transaction received from said distribution control  
25 apparatus as barcodes, said barcode reader reads barcodes  
displayed on the portable terminal, said shop terminal  
or said distribution control apparatus executes

settlement based on the information of the barcode read by the barcode reader.

26. An electronic commerce system comprising:

5           a portable terminal;

          a shop terminal equipped with a barcode reader and a collating apparatus provided at a shop where products are delivered; and

          an information transmission apparatus that  
10 transmits product information by radio, wherein said information transmission apparatus sends said product information by radio to both said portable terminal and said shop terminal, said portable terminal displays data according to the received product information on the  
15 display section as a barcode, said shop terminal reads the barcode displayed by said barcode reader on the portable terminal and said collating apparatus collates the information of the barcode read by the barcode reader with the product information received from said  
20 information transmission apparatus.

27. An electronic commerce system comprising:

          a portable terminal;

          a shop terminal equipped with a barcode reader and  
25 a collating apparatus provided at a shop where products are delivered;

          an information transmission apparatus that

transmits product information or service information to said portable terminal; and

5 a distribution control apparatus that controls electronic commercial transaction information, wherein said portable terminal displays product information received from said information transmission apparatus or information on the product selected by the portable terminal user as a barcode, said barcode reader reads the barcode displayed on the portable terminal, said  
10 collating apparatus collates the information of the barcode read by the barcode reader with the control information sent from said distribution control apparatus and sends the commercial transaction information to said distribution control apparatus and said distribution  
15 control apparatus changes the control information based on the commercial transaction information.

28. The electronic commerce system according to claim 27, wherein said information transmission apparatus sends  
20 product information according to the position of said portable terminal and/or time to said portable terminal.

29. The electronic commerce system according to claim 27, wherein said shop terminal has a database and said  
25 distribution control apparatus stores product information selected by said portable terminal user in the database of the shop selected by said portable terminal

user.

30. The electronic commerce system according to claim  
27, wherein the product information sent from said  
5 information transmission apparatus to said portable  
terminal includes an electricity bill, telephone bill,  
gas bill or water bill.

31. The electronic commerce system according to claim  
10 27, wherein said portable terminal displays said  
encrypted product information as a barcode.

32. An electronic commerce system comprising:  
a portable terminal; and  
15 a shop terminal equipped with a barcode reader  
provided at a shop where products are delivered, wherein  
said portable terminal includes a reading section that  
reads information stored in a bridge medium, reads product  
information stored in said bridge medium, displays the  
20 information on said product information on the display  
section as a barcode, said shop terminal reads the barcode  
displayed on said portable terminal from said barcode  
reader and conducts commercial transaction based on the  
read information.

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33. The electronic commerce system according to claim  
32, wherein said bridge medium includes encryption

processing means and said portable terminal reads encrypted product information and displays the information with a barcode.

5 34. An electronic commerce system comprising:

a portable terminal;

a shop terminal equipped with a barcode reader and a collating apparatus provided at a shop where products are delivered;

10 an information transmission apparatus that transmits product information to said portable terminal; and

a distribution control apparatus that controls electronic commercial transaction information that  
15 controls electronic commercial transaction information, wherein said distribution control apparatus sends a product purchasing program and product information in storage to said portable terminal through said information transmission apparatus, said portable  
20 terminal displays product related information formed according to said received product purchasing program and product information on the display section, displays the product related information selected by the portable terminal user with reference to the product related  
25 information displayed on the display section as a barcode on the display section, said barcode reader reads the barcode displayed on the portable terminal and said

collating apparatus collates the barcode information read by the barcode reader with the control information sent from said distribution control apparatus.

- 5 35. An electronic commerce system that uses data displayed with a barcode as electronic money.

36. An electronic commerce system comprising:

- a portable terminal;
  - 10 a shop terminal; and
  - a distribution control apparatus, wherein
- processing of purchase ordering of a product or service is performed with the distribution control apparatus beforehand, the shop terminal receives information
- 15 necessary for settlement processing from the distribution control apparatus beforehand when the portable terminal user visits the shop to conduct settlement processing, and displays information necessary for settlement
- processing on the display section of the portable terminal
- 20 as a barcode when the portable terminal user visits the shop, the barcode reader at the shop terminal reads the barcode, collates the content of the barcode read with the information necessary for the settlement processing received by the shop terminal beforehand and conducts
- 25 settlement processing.

37. The electronic commerce system according to claim

36, wherein the information necessary for said settlement processing includes time information when purchase order processing is conducted between said portable terminal and said distribution control apparatus.

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38. The electronic commerce system according to claim 36, wherein the portable terminal encrypts information necessary for settlement processing and displays the encrypted information with a barcode.

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39. The electronic commerce system according to claim 36, wherein the distribution control apparatus encrypts information necessary for settlement processing using a predetermined encryption key and sends the encrypted

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information to the portable terminal, the portable terminal displays the information necessary for the encrypted settlement with a barcode, the shop terminal sends the information read from the barcode to the distribution control apparatus, the distribution control apparatus decrypts the information received from the shop terminal using the own encryption key and authenticates the settlement.

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40. The electronic commerce system according to claim 36, wherein the distribution control apparatus adds signature data to information necessary for settlement and sends the information to the portable terminal and

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shop terminal.

41. The electronic commerce system according to claim 36, wherein the portable terminal and shop terminal can  
5 directly communicate with each other by radio and the shop terminal rewrites the balance data after settlement of the portable terminal by radio.

42. An admission control system comprising:  
10 a portable terminal;  
an admission control terminal equipped with a barcode reader and collating apparatus provided at the entrance; and  
an information transmission apparatus that  
15 transmits admission information to said portable terminal, wherein said portable terminal displays the admission information received from said information transmission apparatus as a barcode, said admission control terminal admits the entry of said admission applicant according  
20 to the barcode information displayed on said portable terminal.

43. The admission control system according to claim 42, wherein said admission control terminal further comprises  
25 communicating means for radio communication with said portable terminal and admits the entry of said applicant according to the radio communication information with



said portable terminal in addition to said barcode.

44. A local radio system comprising:

a first communication terminal; and

5 a second communication terminal capable of communicating with said first communication terminal and equipped with a barcode reader, wherein the display section of said first communication terminal displays the identification information of the first communication  
10 terminal with a barcode, said second communication terminal reads the barcode displayed by said barcode reader, searches for said first communication terminal indicated by said identification information from a plurality of communication terminals and carries out  
15 radio communication with said first communication terminal.

45. The local radio system according to claim 44, wherein said barcode displayed by said first communication

20 terminal is a two-dimensional barcode.